

## CLAIMS

1. A molecular circuit, comprising (a) a first nucleic acid molecule that comprises a gene encoding a transcription factor and a first promoter activatable by stress and by the transcription factor, wherein the first promoter and the transcription factor gene are operably linked, and (b) a second nucleic acid molecule that comprises a gene of interest and a second promoter activatable by the transcription factor, wherein the second promoter and the gene of interest are operably linked.

2. The molecular circuit of claim 1, wherein a single nucleic acid molecule comprises the first nucleic acid molecule and the second nucleic acid molecule.

3. The molecular circuit of claim 1, wherein the transcription factor is a mutated heat shock transcription factor (HSF).

4. The molecular circuit of claim 3, wherein the mutated HSF is derived from a vertebrate HSF or from an insect HSF.

5. The molecular circuit of claim 4, wherein the vertebrate HSF is a mammalian HSF or an avian HSF.

6. The molecular circuit of claim 1, wherein the transcription factor is a chimeric transcription factor.

7. An expression vector comprising the molecular circuit of claim 2.

8. A set of expression vectors, comprising a first expression vector comprising the first nucleic acid molecule of claim 1, and a second expression vector comprising the second nucleic acid molecule of claim 1.